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U.S. Citizenship and Immigration Services

B5

[redacted]

FILE: [redacted] Office: TEXAS SERVICE CENTER Date: MAR 20 2009

SRC 07 800 19015

IN RE: Petitioner: [redacted]
Beneficiary:

PETITION: Immigrant Petition for Alien Worker as a Member of the Professions Holding an Advanced Degree or an Alien of Exceptional Ability Pursuant to Section 203(b)(2) of the Immigration and Nationality Act, 8 U.S.C. § 1153(b)(2)

ON BEHALF OF PETITIONER:

[redacted]

INSTRUCTIONS:

This is the decision of the Administrative Appeals Office in your case. All documents have been returned to the office that originally decided your case. Any further inquiry must be made to that office.

John F. Grissom, Acting Chief
Administrative Appeals Office

DISCUSSION: The Director, Texas Service Center, denied the employment-based immigrant visa petition. The matter is now before the Administrative Appeals Office (AAO) on appeal. The appeal will be sustained and the petition will be approved.

The petitioner seeks classification pursuant to section 203(b)(2) of the Immigration and Nationality Act (the Act), 8 U.S.C. § 1153(b)(2), as a member of the professions holding an advanced degree. At the time he filed the petition, the petitioner was a lead scientist at Champion Technologies, an oilfield chemical company in Fresno, Texas. U.S. Citizenship and Immigration Services (USCIS) records show that the petitioner now works at [redacted] The petitioner asserts that an exemption from the requirement of a job offer, and thus of a labor certification, is in the national interest of the United States. The director found that the petitioner qualifies for classification as a member of the professions holding an advanced degree but that the petitioner had not established that an exemption from the requirement of a job offer would be in the national interest of the United States.

On appeal, the petitioner submits a brief from counsel and copies of materials already in the record.

Section 203(b) of the Act states, in pertinent part:

> (2) Aliens Who Are Members of the Professions Holding Advanced Degrees or Aliens of Exceptional Ability. --
>
> > (A) In General. -- Visas shall be made available . . . to qualified immigrants who are members of the professions holding advanced degrees or their equivalent or who because of their exceptional ability in the sciences, arts, or business, will substantially benefit prospectively the national economy, cultural or educational interests, or welfare of the United States, and whose services in the sciences, arts, professions, or business are sought by an employer in the United States.
> >
> > (B) Waiver of Job Offer.
> >
> > > (i) . . . the Attorney General may, when the Attorney General deems it to be in the national interest, waive the requirements of subparagraph (A) that an alien's services in the sciences, arts, professions, or business be sought by an employer in the United States.

The director did not dispute that the petitioner qualifies as a member of the professions holding an advanced degree. The sole issue in contention is whether the petitioner has established that a waiver of the job offer requirement, and thus a labor certification, is in the national interest.

Neither the statute nor the pertinent regulations define the term "national interest." Additionally, Congress did not provide a specific definition of "in the national interest." The Committee on the Judiciary merely noted in its report to the Senate that the committee had "focused on national interest by

increasing the number and proportion of visas for immigrants who would benefit the United States economically and otherwise. . . ." S. Rep. No. 55, 101st Cong., 1st Sess., 11 (1989).

Supplementary information to the regulations implementing the Immigration Act of 1990 (IMMACT), published at 56 Fed. Reg. 60897, 60900 (November 29, 1991), states:

> The Service [now (USCIS)] believes it appropriate to leave the application of this test as flexible as possible, although clearly an alien seeking to meet the [national interest] standard must make a showing significantly above that necessary to prove the "prospective national benefit" [required of aliens seeking to qualify as "exceptional."] The burden will rest with the alien to establish that exemption from, or waiver of, the job offer will be in the national interest. Each case is to be judged on its own merits.

Matter of New York State Dept. of Transportation, 22 I&N Dec. 215 (Commr. 1998), has set forth several factors which must be considered when evaluating a request for a national interest waiver. First, it must be shown that the alien seeks employment in an area of substantial intrinsic merit. Next, it must be shown that the proposed benefit will be national in scope. Finally, the petitioner seeking the waiver must establish that the alien will serve the national interest to a substantially greater degree than would an available U.S. worker having the same minimum qualifications.

It must be noted that, while the national interest waiver hinges on prospective national benefit, it clearly must be established that the alien's past record justifies projections of future benefit to the national interest. The petitioner's subjective assurance that the alien will, in the future, serve the national interest cannot suffice to establish prospective national benefit. The inclusion of the term "prospective" is used here to require future contributions by the alien, rather than to facilitate the entry of an alien whose benefit to the national interest would be entirely speculative.

We also note that the regulation at 8 C.F.R. § 204.5(k)(2) defines "exceptional ability" as "a degree of expertise significantly above that ordinarily encountered" in a given area of endeavor. By statute, aliens of exceptional ability are generally subject to the job offer/labor certification requirement; they are not exempt by virtue of their exceptional ability. Therefore, whether a given alien seeks classification as an alien of exceptional ability, or as a member of the professions holding an advanced degree, that alien cannot qualify for a waiver just by demonstrating a degree of expertise significantly above that ordinarily encountered in his or her field of expertise.

Several witness letters accompanied the petitioner's initial submission. [redacted] was the petitioner's Ph.D. advisor at Rice University, Houston, Texas. He stated:

> In my research group, [the petitioner] focused his research mainly on gas hydrates. During the course of his PhD study, [the petitioner] made several significant contributions that have changed the direction of this field of study. . . .

> When water and natural gas, such as methane, come together under high pressure and low temperature, they form ice-like crystalline compounds called gas hydrates. One volume of gas hydrates can contain up to 180 volumes of gas. . . .
>
> During gas and oil production in deep water . . . and cold land regions . . . , gas hydrates can form and completely plug a pipeline. . . .
>
> Naturally occurring gas hydrates have been found in the sediments of the permafrost regions and in offshore sediments. . . . The amount of carbon (in the form of natural gas) trapped in these gas hydrate reservoirs has been estimated by the U.S. Geological Survey to be twice that of all the other types of fossil fuels combined. . . . Clearly, if the natural gas can be successfully recovered, gas hydrates can provide energy security to the United States as an alternative to crude oil. . . .
>
> Understanding hydrate formation and dissociation processes on a molecular level is the foremost step in controlling gas hydrates in the applications presented above. [The petitioner] has developed a number of new, carefully designed experiments that have changed how scientists and engineers now view the formation and decomposition of natural gas hydrates. Prior to [the petitioner's] research, no method was available to directly detect gas hydrate behavior in crude oil systems. The molecular level probe that [the petitioner] developed has the promise to provide a clear picture of hydrite formation and decomposition. Thus, [the petitioner's] research has changed the direction of this field of research.

Section Manager of Flow Management at Champion Technologies, supervised the petitioner's work at that company. Ms [redacted] stated:

> In the summer of 2003, [the petitioner] joined Champion Technologies under my supervision as an intern in the gas hydrate area. . . . [The petitioner] conducted an investigation of gas hydrate mechanisms using our hydrate apparatus . . . and subsequently published his findings in the high impact *Journal of Industrial and Engineering Chemistry Research*. . . .
>
> By the time he finished his Ph.D. at the prestigious Rice University, he had already acquired an international reputation as an expert in the field of gas hydrates because of his influential journal publications and presentations at national and international conferences. We were very fortunate to have him back as the Lead Scientist of the gas hydrate program.

Notwithstanding the petitioner's documented departure from the company, the AAO will consider the petitioner's accomplishments at Champion Technologies insofar as they relate to his overall track record of achievement. Ms. [redacted] described those achievements:

[The petitioner's] contributions to hydrate prevention during oil/gas productions are especially remarkable. . . . [H]ydrocarbon productions in the Gulf of Mexico are constantly under the threat of gas hydrate blockages in the flowlines. Once the lines are plugged up by gas hydrates, the production has to be shut down and it can take months to remediate the problem. . . . The operators mainly use gas hydrate inhibitor chemicals and thermal insulation to minimize the hydrate risks. After reviewing the production system of a customer, [the petitioner] recommended changes to the existing hydrate inhibitor chemical injection program. . . . After implementing the changes with a $3,000 investment, the injection rate was lowered by 75%. This lower rate reduced costs by USD $414,720 for 32 days of implementation. This is only one of the 23 similar projects [the petitioner] completed last year alone. . . .

Worthy of mention is that [the petitioner's] discovery of structured liquid layer at the hydrate/water interface significantly benefited the petroleum industry in managing hydrate problems. . . . When two [water-containing] particles collide in a hydrocarbon flowline, they can easily attach to each other and agglomerate into a larger particle. As this process continues, the flowline will be eventually blocked. . . . On the other hand, the attraction force between two complete solid hydrate particles without the liquid layer is much smaller, and the formation of such particles in flowlines poses less of a threat. After recognizing this mechanism because of [the petitioner's] work, the industry can now design production systems so that all the water can be converted into small hydrate particles, and those particles will be transported along the hydrocarbon stream without plugging up the flowlines. . . .

[The petitioner's] work . . . also improved the design of low dosage hydrate inhibitors (LDHI). . . . Traditional hydrate inhibitors, like methanol, require a large quantity to prevent hydrate formation, and they are detrimental to the environment. One barrel of produced water can require as much as 25 gallons of methanol to inhibit. . . . One barrel of produced water may need as little as 0.2 gallon of LDHI to prevent gas hydrate blockages. . . .[The petitioner] has been routinely applied in the Gulf of Mexico for hydrate prevention. Several of the LDHIs are unique and highly effective formulations developed by [the petitioner].

Rice University [redacted] stated:

[The petitioner's] unique perspective and skill set has led him to groundbreaking discoveries and make him the most suited to continue this important research. One of these discoveries is that the presence of gas hydrates in the liquid water significantly impacts the liquid water's hydrogen bonding network, which was not thought likely by traditional wisdom. This contribution enabled us to picture hydrate mechanisms on a molecular scale and offered the potential to manipulate hydrate formation and dissociation by methodical interference of the coexisting liquid structure. He also developed the first technique to directly measure gas hydrates in black oil with

> extraordinary accuracy, which is of paramount importance in hydrate management during oil/gas productions.
>
> . . . One recent technique he achieved was to capture the dynamic behavior of the hydrate "guest" molecules in both the hydrate phase and the coexisting liquid phase at the same time using a low budget 2MHz NMR equipment. This elegant technique . . . can directly measure how fast the hydrates form or dissociate. Furthermore . . . , this technique has the potential to be applied in detecting the presence of gas hydrates in the sediments while drilling the well. That capability would be the vital first step in the economic production of gas from hydrate deposits.

(Emphasis in original.) [redacted] of Texas Tech University is also an adjunct associate professor at Rice University, in which capacity he has collaborated with the petitioner. [redacted] stated his belief that the petitioner's method of directly detecting the hydrate process by means of NMR "will be seen as providing an essential component of current and future deep ocean petroleum production technology."

[redacted] of the Colorado School of Mines stated:

> I do not know [the petitioner] personally and therefore this is an independent recommendation. I am very much aware of [the petitioner's] research and significant and important achievements in the field of natural gas hydrates. . . . [The petitioner's] work is truly of an excellent standard and deserves the utmost appreciation. . . .
>
> Understanding the molecular mechanisms of gas hydrate formation and decomposition is important in providing insight into controlling gas hydrates in a number of technological applications, including gas and oil transportation in flowlines, natural gas storage and gas separation in novel clathrate materials. . . . Current knowledge in the field on these formation and decomposition mechanisms is still very limited.
>
> . . . [I]n order to investigate the hydrate formation and decomposition mechanisms on a molecular-level he has employed nuclear magnetic resonance (NMR) spectroscopy to observe directly the liquid-to-solid conversion of liquid/natural gas systems to clathrate hydrates. One particularly novel and important discovery [the petitioner] has made is that he can apply NMR spectroscopy to investigate the transformation of water/crude oil systems to the crystalline hydrate phase. . . .
>
> [His] scientific accomplishments have truly made major impacts in our research.

[redacted] of the University of Calgary, Canada, stated:

> I briefly met [the petitioner] in 2004 . . . I was impressed with his insight of complex concepts involved in his work and clarity of analysis. . . .

> I believed his research will greatly aid in developing the much-needed mathematical models and simulators for use in studying gas recovery schemes from hydrate reservoirs. Without a doubt, this tremendously talented young scientist has made substantial contributions in the field of gas hydrates and I have every expectation that he will continue to do so in the future.

The letters credit the petitioner with important contributions and discoveries in his specialty. In terms of supporting evidence, most of the documentation submitted with the petition consisted of the petitioner's published articles, conference presentations, and related materials. The petitioner submitted documentation showing that five independent articles contained citations to the petitioner's published work. An anonymous reviewer, recommending one of the petitioner's articles for publication, stated: "The authors have distinguished themselves in this field and this work represents an important contribution that researchers will want to know about." The AAO takes note of this assessment which, significantly, was not solicited specifically to assist the petitioner in obtaining immigration benefits.

On February 29, 2008, the director issued a request for evidence, stating that the petitioner's "work in gas hydrate research [does] not distinguish or place them above their peers who do similar work." The director instructed the petitioner to "[s]ubmit documentary evidence to establish that the beneficiary is unique within their field." In response, the petitioner submitted new letters, along with evidence of the petitioner's ongoing research activities, memberships in professional consortia, and other exhibits.

The authors of the new witness letters represent a variety of institutions. [redacted] of Tulsa University, Oklahoma, stated:

> I am the principle [*sic*] investigator of the Hydrate Flow Performance Joint Industry Projects (JIP) and the Vice President of the Research & Technology Development program at University of Tulsa. . . .
>
> I came to know [the petitioner's] unprecedented work on gas hydrates through his presentations in national/international conferences and his publications in prestigious scientific journals. His findings . . . are changing the landscape of this field. Our hydrate JIP has an Advisory Board in place to provide expert opinions and coach hydrate research activities. . . . [O]nly those who have made exceptional contributions on gas hydrates and who are recognized as leading experts in the field are qualified to serve. . . . Current Advisory Board members have unanimously extended [the petitioner] an invitation to serve on the board. . . . Since then, he has offered many valuable insights and advices on the gas hydrate research.

[redacted] Assurance and Integrity Management Engineer at BP Exploration & Production, Houston, Texas, stated:

> Because it is closely related to my job function, I have been closely following the publications in this field [relating to gas hydrates]. To my disappointment . . . research progress in this area has been stagnant for decades. . . .
>
> From [the petitioner's] publication in the prestigious *Journal of Physical Chemistry B*, I was excited to learn that he pioneered the technology of applying Nuclear Magnetic Resonance (NMR) to study gas hydrates in black oil. This brilliant breakthrough . . . opened a completely new research direction and represented a significant step change in the field of gas hydrates. . . . From then on, I have been closely following [the petitioner's] work on gas hydrates and flow assurance through journal publications, conference presentations, and industrial meetings.
>
> . . . [The petitioner] successfully developed AAHI [anti-agglomerant hydrate inhibitor] products that can effectively prevent gas hydrate blockages at 80% watercut, which was unthinkable to other hydrate researchers and experts. . . . After rolling out his novel technology to the industry, [the petitioner] is helping many oil producers to resume production from the wells that have been previously shut down as a result of gas hydrate problems. This is a strong example of how [the petitioner] has influenced his field and improved oil production. One example that I am personally familiar with is an oil well in Gulf of Mexico (GOM) that has reached a watercut of 82%. (Its liquid production stream is composed of 82% water and 18% oil.) With the help of [the petitioner's] technology and expertise, this otherwise would be dead well is producing 32 million cubic feet of natural gas and 2071 barrels of crude oil every day, which is enough to meet the energy consumption of 50,000 American households (including transportation).

Gas Hydrates Team Leader at Champion Technologies in Aberdeen, Scotland, stated:

> I became aware of [the petitioner's] work on gas hydrates before I met him for the first time . . . in 2005. At that time, [the petitioner] was already internationally recognized as a leading figure in the field of gas hydrates for his ground breaking research at Rice University. . . .
>
> [The petitioner] accomplished what none of his peers could: AAHI products that are effective for high watercuts. [The petitioner's] products were tested by independent third-party labs and were shown to be effective up to 90% watercut, a steep change compared to the 50% watercut limitation that current AAHI technology has. . . . [T]he new AAHI products significantly extend the life spans of aging oilfields. . . . [The petitioner's] technology outperformed all the other AAHI products on the market by a huge margin which is another clear example of his impact in the field.

a Senior Research Engineer at ExxonMobil Upstream Research Company, Houston, stated that the petitioner became involved with "the internationally renowned Sakhalin-1 Project, one of

the world['s] largest oil/gas developments operated by Exxon and implemented under severe natural and climactic conditions." Dr. [redacted] asserted that the extreme conditions of the Sakhalin-1 Project are beyond the capacities of "most of the current AAHI chemistries," presenting what "seems like an impossible task to many hydrate researchers." Dr. [redacted] described the petitioner's contribution:

> [The petitioner] discovered that the combination of two high-flash solvents . . . at a magic ratio surprisingly stays fluid like at -47°F although each will freeze by itself at such temperature. This critical breakthrough made it possible to formulate [his] AAHI chemistry with this unique solvent combo and generate the final product, which passed all the requirements with flying colors. . . . [The petitioner] was bestowed the responsibility of consultancy on the Sakhalin hydrate management strategy.

of China University of Geosciences stated: "The influence of [the petitioner's] work on gas hydrates is far reaching in this field. . . . [T]he success of economical gas production from gas hydrate reservoirs hinges on his continued engagement and research in this field."

[redacted] of SPT Group, Gåsevikveien, Norway, stated:

> I am currently the Chief Scientist on Multiphase Technology at SPT Group, which provides the world-leading dynamic flow assurance modeling program OLGA in the energy industry. OLGA is also the only model that has the capability of simulating gas hydrate plugging characteristics in real time. OLGA has been extensively applied in the energy industry to model the dynamic flow behavior in production flowlines around the world. The clients who depend heavily on my expertise on OLGA include almost every energy producer in the world, from small ones to the major ones, like BP, Chevron, Statoil, etc. . . .
>
> [The petitioner] ingen[i]ously employed NMR to measure the hydrate behavior by monitoring the magnetic response of the water molecules. . . . Using this breakthrough technique, [the petitioner] immediately discovered that gas hydrates form a solid shell around the water droplets in an oil/water emulsion system. This hydrate shell isolates the liquid water inside and significantly slows down the hydrate growth rate. This finding is vitally important for accurately modeling the fluid dynamics in the flowlines and predicting hydrate plug formation. This phenomenon discovered by [the petitioner] is being incorporated into the OLGA program and directly contributing to improved energy production worldwide.

The director denied the petition on June 11, 2008, stating that the petitioner had not established that he "has accomplished anything more significant than other capable members of their profession holding similar credentials and conducting similar work." On appeal, counsel asserts that the director did not give sufficient consideration to the independent witness letters, which establish the significance of the petitioner's contributions. Counsel argues that the petitioner "has demonstrated substantive, beneficial results of his work that can be attributed to him personally" (counsel's emphasis.)

Upon careful consideration, the AAO concurs with counsel. The letters do not simply show that the petitioner has earned a reputation among his employers and professors, or that others in the field consider his work to hold some vague sort of promise. Rather, a wide range of witnesses have credibly attested, in lucid detail, to specific contributions that the petitioner had already made prior to the petition's filing date, as well as further work that demonstrates his ongoing achievements. The petitioner has not documented heavy citation of his published works, but the claimed significance of his work is industrial rather than academic. The record amply demonstrates that the petroleum industry has implemented the petitioner's work on a large scale, using his expertise in gas hydrates both to reduce flow blockages and to explore means of extracting energy from an abundant but relatively untapped resource. The petitioner's status as a consultant with top industry groups and his activity in major international projects, coupled with the figures provided to show the magnitude of the change the petitioner has effected, support the approval of the petition.

It does not appear to have been the intent of Congress to grant national interest waivers on the basis of the overall importance of a given field of research, rather than on the merits of the individual alien. That being said, the evidence in the record establishes that the industry recognizes the significance of this petitioner's research rather than simply the general area of research. The benefit of retaining this alien's services outweighs the national interest that is inherent in the labor certification process. Therefore, on the basis of the evidence submitted, the petitioner has established that a waiver of the requirement of an approved labor certification will be in the national interest of the United States.

The burden of proof in these proceedings rests solely with the petitioner. Section 291 of the Act, 8 U.S.C. § 1361. The petitioner has sustained that burden. Accordingly, the decision of the director denying the petition will be withdrawn and the petition will be approved.

ORDER: The appeal is sustained and the petition is approved.